Baker et al. (2022) "How Do Investors Value ESG"

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Overview

- Are investors willing to pay for ESG?
  - Yes, WTP = 20 bps
- What are the motivations for WTP of ESG?
  - Both financial and non-financial benefits
- What are the sources of higher expense ratios of ESG funds?
  - Higher operating costs and higher markups

- Mutual fund data
  - Restrict sample to index funds identified by CRSP
  - Fund ratings from Morningstar
  - 2019 – 2022

- ESG data
  - Morningstar fund ESG mandates, Sustainability Rating
  - Firm-level ESG scores from Morningstar and Refinitiv

Empirical Facts

Are investors willing to pay for ESG?

- ESG funds have higher fund flows?
  - ESG funds have 3% higher fund flows
- ESG funds have higher expense ratios?
  - ESG funds have 4.6 bps higher expense ratios

Fund Flows

$$d \log TNA_{kt} = \beta ESG_{kt} + X'_{kt}\Gamma + \mu_{j(k)} + \mu_{m(k)t} + \varepsilon_{kt} \quad (1)$$

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG Fund	0.028***	0.032***						
	(0.004)	(0.005)						
Sustainability Fund			0.028***	0.031***				
			(0.004)	(0.005)				
Impact Fund					0.023***	0.021***		
					(0.005)	(0.008)		
ESG-Related Strategy							0.031***	0.034***
							(0.004)	(0.005)
Observations	64,014	64,017	64,017	64,017	64,017	64,017	50,629	50,629
R-squared	0.120	0.260	0.253	0.260	0.252	0.259	0.256	0.263
Mkt FE	X	X	X	X	X	X	X	X
Managment FE		X		X		X		X

Fund Expense Ratios

$$\text{Expense Ratio}_{kt} = \gamma \text{ ESG}_{kt} + X'_{kt}\Omega + \phi_{j(k)} + \phi_{m(k)t} + \varepsilon_{kt} \quad (2)$$

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ESG Fund	2.369***	4.610***						
	(0.665)	(0.415)						
Sustainability Fund			3.906***	5.815***				
			(0.609)	(0.369)				
Impact Fund					2.861***	2.724***		
					(0.980)	(0.682)		
ESG-Related Strategy							3.586***	5.710***
							(0.742)	(0.623)
Observations	64,044	64,044	64,044	64,044	64,044	64,044	50,651	50,651
R-squared	0.439	0.766	0.439	0.766	0.439	0.765	0.422	0.753
Mkt FE	X	X	X	X	X	X	X	X
Managment FE		X		X		X		X

Empirical Strategy

- Investor i chooses one fund from L_{mt} funds that track investment objective m at time t
  - m: US large cap equity, US small cap equity, international equity, etc.

- Investor i's utility from fund k is $u_{ikt} = -\alpha p_{kt} + \gamma ESG_{kt} + X'_{kt}\Theta + \xi_{kt} + \epsilon_{ikt}$.
  - γ/α: willingness to pay for ESG

Empirical Strategy

Assume T1EV ϵ_{ikt}, the market share of fund k in market m is

$$s_{kmt} = \frac{\exp\left(-\alpha p_{kt} + \gamma ESG_{kt} + X'_{kt}\Theta + \xi_{kt}\right)}{\sum_{l=1}^{L_{mt}} \exp\left(-\alpha p_{lt} + \gamma ESG_{lt} + X'_{lt}\Theta + \xi_{lt}\right)} \tag{3}$$

where $s_{kmt} = \frac{Flow_{kmt}}{\sum_{l \in L_{mt}} Flow_{lmt}}$.

$$\begin{aligned}
\ln s_{kmt} &= -\alpha p_{kt} + \gamma ESG_{kt} + X'_{kt}\Theta + \xi_{kt} - \ln\left(\sum_{l \in L_{mt}} \exp(-\alpha p_{lt} + \gamma ESG_{lt} + X'_{lt}\Theta + \xi_{lt})\right) \\
&= -\alpha p_{kt} + \gamma ESG_{kt} + X'_{kt}\Theta + \mu_{mt} + \xi_{kt}
\end{aligned} \tag{4}$$

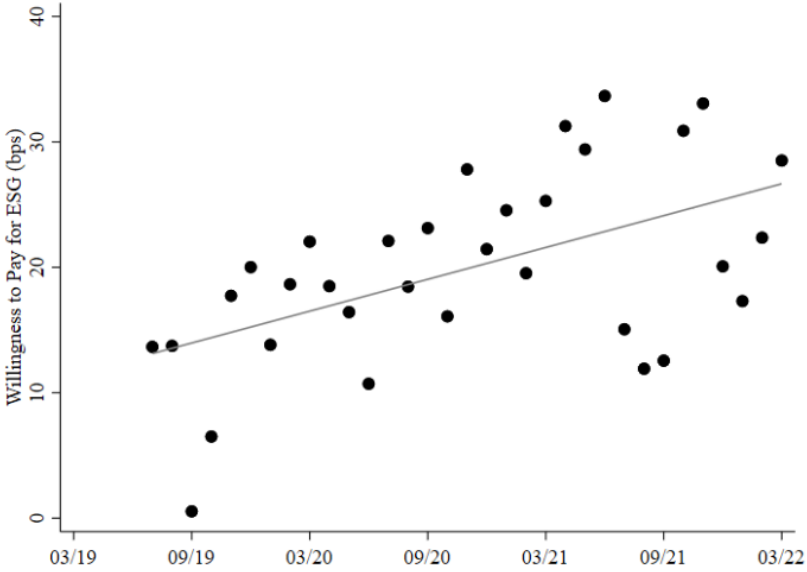
- IV for p_{kt}: the average expense ratio that sponsor j charges for all other funds in all other markets at time t

Results

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Expense Ratio (bps)	-0.034***	-0.042***	-0.035***	-0.060***	-0.040***	-0.062***
	(0.001)	(0.001)	(0.001)	(0.007)	(0.001)	(0.003)
ESG Fund	0.333***	0.356***	0.977***	1.228***	0.822***	0.836***
	(0.066)	(0.067)	(0.189)	(0.186)	(0.103)	(0.106)
Observations	30,960	30,722	10,989	10,828	8,840	8,651
R-squared	0.433	0.428	0.701	0.684	0.422	0.397
Mkt FE	X	X	X	X	X	X
IV		X		X		X
AgeXMarket F.E.			X	X		
New Fund Sample					X	X
Elasticity of Demand	1.9	2.3	2.0	3.4	2.2	3.5
Value of ESG [bp]	10	9	28	20	21	13

- WTP: $\gamma/\alpha = 1.228/0.060 = 20$ bps

Results


Willingness to Pay for ESG (bps)
0
10
20
30
40
03/19
09/19
03/20
09/20
03/21
09/21
03/22

Results

The 20 bps WTP measures

- financial benefits of ESG: investor expectation of ESG fund returns
- non-financial benefits of ESG: investor's non-financial preferences

VARIABLES	(1)	(2)	(3)
ESG Fund	62.478	61.774	
	(62.186)	(61.697)	
Expected ESG Ret. (σ) x ESG Fund		-29.373	-25.469
		(48.256)	(50.210)
Expense Ratio (bps)	-0.072	-0.072	10.486
	(0.515)	(0.515)	(7.010)
Observations	62,012	62,012	62,005
R-squared	0.898	0.898	0.902
Mkt FE	X	X	X
Fund FE			X

Results

The higher expense ratios come from

- higher operating costs
- higher markups due to imperfect competition of fund market

VARIABLES	(1) Exp. Ratio	(2) Markup
ESG Fund	5.852***	2.851***
	(0.807)	(0.858)
Observations	11,506	11,506
R-squared	0.765	0.745
Mkt FE	X	X
Managment FE	X	X

Expense ratio = 5.85 bps higher or 25% WTP
Operating costs = 2.85 bps higher
Markup = 3.00 bps

Conclusion

- Investors are willing to pay for ESG ≈ 20 bps
  - WTP grows over time
  - WTP for both financial and non-financial benefits
- 25% WTP covers higher expenses
  - Higher expense ratios come from higher operating costs and higher markups

References

Baker, M. P., M. Egan, and S. K. Sarkar (2022, November). How Do Investors Value ESG?